IN THE CLAIMS:

1. (currently amended) A device for attaching to a living subject <u>having a joint,</u> comprising a first sensor, a second sensor, a processor, and a <u>non-volatile</u> storage device, said ~~a~~ first sensor for attaching to a first body segment above ~~a hip~~ <u>the</u> joint, said second sensor for attaching to a second body segment below the ~~hip~~ joint, wherein said first sensor and said second sensor each comprise ~~an~~ <u>a solid state</u> inclination measuring device <u>for determining inclination with respect to the gravity vector</u>, wherein <u>said inclination with respect to the gravity vector determined</u> ~~data~~ from said first sensor and from said second sensor is processed in said processor and stored in said <u>non-volatile</u> storage device for distinguishing lying, sitting, and standing positions, <u>wherein said processor and said non-volatile storage device are part of the device for attaching to the living subject</u>.

2. (Canceled)

3. (original) A device as recited in claim 2, wherein said inclination measuring device comprises a dc accelerometer.

4. (original) A device as recited in claim 1, wherein said inclination measuring device comprises three accelerometers orthogonally mounted.

5. (original) A device as recited in claim 1, wherein said inclination measuring device further comprises a magnetometer.

6. (currently amended) A device as recited in claim ~~5~~ <u>1</u>, wherein said inclination measuring device comprises a plurality of magnetometers.

7. (currently amended) A device as recited in claim 1, wherein data from said ~~magnetometer data~~ magnetometers is for providing direction with respect to the earth's magnetic field.

8. (original) A device as recited in claim 1, wherein data from said first sensor is subtracted from data from said second sensor.

9. (original) A device as recited in claim 8, wherein said subtraction is to determine a difference in orientation.

10. (original) A device as recited in claim 8, wherein said first sensor and said second sensor are for measuring range of motion of said second body segment with respect to said first body segment.

11. (currently amended) A device as recited in claim 10, wherein data from said range of motion measurement ~~data~~ is analyzed for change of range of motion over time.

12. (original) A device as recited in claim 11, wherein initial values of said time dependent data are tared out to provide change from said initial values.

13. (currently amended) A device as recited in claim 1, wherein said non-volatile storage device comprises a solid state device.

14. (currently amended) A device as recited in claim 13, wherein said non-volatile storage device comprises a non-volatile memory ~~device~~ chip.

15. (original) A device as recited in claim 1, further comprising a feedback mechanism

16. (currently amended) A device as recited in claim ~~16~~ 15, further comprising a housing, wherein said first sensor, said storage device, said processor, and said feedback mechanism are all within said housing.

17. (original) A device as recited in claim 15, further comprising a housing separate from said first sensor and said second sensor, wherein said feedback mechanism is within said housing.

18. (original) A device as recited in claim 17, wherein said first sensor and said second sensor are wirelessly connected to said housing containing said feedback mechanism.

19. (original) A device as recited in claim 18, wherein said wireless connection is an RF connection.

20. (currently amended) A device as recited in claim 15, wherein said feedback mechanism is activated if a preset range of motion threshold has been exceeded ~~too many~~ more than a specified number of times.

21. (original) A device as recited in claim 15, wherein said feedback mechanism provides vibratory or auditory feedback.

22. (original) A device as recited in claim 15, wherein said feedback mechanism comprises a piezo-electric buzzer or an electromagnetic shaker.

23. (original) A device as recited in claim 15, wherein said feedback mechanism provides feedback to warn of a problem, discourage a movement, support a desired result, or encourage a movement.

24. (original) A device as recited in claim 23, wherein said problem comprises repeatedly exceeding a pre-programmed inclination angle.

25. (original) A device as recited in claim 1, wherein said processor comprises a microprocessor, a signal processor, or a personal computer.

26. (currently amended) A device as recited in claim 1, wherein data from said inclination determination ~~data~~ comprises body segment ~~orientation~~ inclination data as a function of time.

27. (currently amended) A device as recited in claim 1, wherein data from said inclination determination ~~data~~ comprises posture data as a function of time.

28. (currently amended) A device as recited in claim 1, wherein data from said inclination determination ~~data~~ is used to adjust physical therapy.

29. (original) A device as recited in claim 1, wherein said device further comprises a data entry system.

30. (original) A device as recited in claim 29, wherein said data entry system comprises a button.

31. (original) A device as recited in claim 29, wherein said data entry system is for recording the presence of pain.

32. (original) A device as recited in claim 29, wherein time, date or other data are recorded when said data entry system is used.

33. (currently amended) A device as recited in claim 1, ~~wherein~~ further comprising a program for displaying data from said inclination determination ~~data is displayed~~ as a histogram showing number of inclinations at each angle range during a time period.

34. (currently amended) A device as recited in claim 1, ~~wherein~~ further comprising a program for displaying data from said inclination determination ~~data is displayed~~ as inclination v. time.

35. (original) A device as recited in claim 1, further comprising a digital filter.

36. (currently amended) A device as recited in claim 35, wherein said device may be subject to linear accelerations, wherein said digital filter is for reducing effect of said linear accelerations on the data.

37. (original) A device as recited in claim 35, wherein said digital filter comprises a low pass filter or a high pass filter.

38. (currently amended) A device as recited in claim 1, wherein said inclination measuring device comprises dc accelerometers, wherein said device further ~~comprising~~ comprises a high pass filter, wherein output of said accelerometers that passes through said high pass filter is subsequently integrated and used to compute a resultant velocity which is used to calculate energy used.

39. (original) A device as recited in claim 1, wherein said device is further for determining body posture in said sitting position.

40. (currently amended) A device comprising a solid state sensor, a processor, a non-volatile storage device, and a feedback mechanism wherein data from said sensor is processed in said processor to provide an output, wherein said output is stored in said non-volatile storage device as a function of time, and wherein multiple points of said time dependent output stored in said non-volatile storage device are processed in said processor, wherein said processor is programmed to direct ~~directs~~ said feedback mechanism to provide information or instruction in response to said multiple points of time dependent output indicating ~~too little~~ inactivity, or activity of a joint during an interval of time that is less than a preset level of activity, or ~~too small~~ a range of motion of a joint during an interval of time that is less than a preset range of motion, ~~or repetitive activity that can cause repetitive stress injury or too many motions beyond a specified range of motion during an interval of time or too much~~ or vibration during an interval of time that is greater than a preset amount of vibration ~~for too long a time~~.

41. (currently amended) A device as recited in claim ~~1~~ 40, wherein said sensor comprises an inclination measuring device

42. (Canceled)

43. (currently amended) A device as recited in claim ~~42~~ 40, wherein said inclination measuring device comprises a dc accelerometer.

44. (original) A device as recited in claim 43, wherein said inclination measuring device comprises three accelerometers orthogonally mounted.

45. (original) A device as recited in claim 43, wherein said inclination measuring device further comprises a magnetometer.

46. (original) A device as recited in claim 45, wherein said inclination measuring device comprises a plurality of magnetometers.

47. (original) A device as recited in claim 45, wherein said magnetometer is for providing direction with respect to the earth's magnetic field.

48. (currently amended) A device as recited in claim 40, further comprising a network of ~~said~~ solid state sensors.

49. (currently amended) A device as recited in claim 48, wherein a first solid state sensor of said network of solid state sensors is for placing on a first body segment and a second solid state sensor of said network of solid state sensors is for placing on a second body segment connected to said first body segment.

50. (currently amended) A device as recited in claim 49, wherein ~~output~~ data from said first sensor is subtracted from data from said second sensor to provide angle of a joint there between.

51. (original) A device as recited in claim 49, wherein said first sensor and said second sensor are for measuring range of motion of said second body segment with respect to said first body segment.

52. (currently amended) A device as recited in claim 51, wherein data from said range of motion measurement ~~data~~ is analyzed for change of range of motion over time.

53. (original) A device as recited in claim 51, wherein an initial values of said time dependent data is tared out for said first sensor and said second sensor to provide change from said initial value.

54. (original) A device as recited in claim 40, wherein said storage device comprises a solid state device.

55. (original) A device as recited in claim 54, wherein said storage device comprises a non-volatile memory device.

56. (currently amended) A device as recited in claim 1, wherein said storage device and said processor are within a housing, wherein said storage device and said processor are within the same housing.

57. (original) A device as recited in claim 40, further comprising a housing, wherein said sensor, said storage device, said processor, and said feedback mechanism are all within said housing.

58. (original) A device as recited in claim 40, further comprising a housing separate from said sensor, wherein said feedback mechanism is within said separate housing.

59. (original) A device as recited in claim 58, wherein said sensor is wirelessly connected to said housing containing said feedback mechanism.

60. (original) A device as recited in claim 59, wherein said wireless connection is an RF connection.

61. (original) A device as recited in claim 40, wherein said feedback mechanism is activated if a preset range of motion threshold has been exceeded more than a specified number of times.

62. (original) A device as recited in claim 40, wherein said feedback mechanism provides vibratory or auditory feedback.

63. (original) A device as recited in claim 40, wherein said feedback mechanism comprises a piezo-electric buzzer or an electromagnetic shaker.

64. (original) A device as recited in claim 40, wherein said feedback mechanism provides feedback to warn of a problem, discourage a movement, support a desired result, or encourage a movement.

65. (original) A device as recited in claim 64, wherein said problem comprises repeatedly exceeding a pre-programmed inclination angle.

66. (original) A device as recited in claim 40, wherein said processor comprises a microprocessor, a signal processor, or a personal computer.

67. (original) A device as recited in claim 40, wherein said output comprises body segment orientation data as a function of time.

68. (original) A device as recited in claim 40, wherein said output comprises posture data as a function of time.

69. (original) A device as recited in claim 40, wherein said output is used to adjust physical therapy.

70. (original) A device as recited in claim 40, wherein said device further comprises a data entry system.

71. (original) A device as recited in claim 70, wherein said data entry system comprises a button.

72. (original) A device as recited in claim 70, wherein said data entry system is for recording the presence of pain.

73. (original) A device as recited in claim 70, wherein time, date or other data are recorded when said data entry system is used.

74. (original) A device as recited in claim 40, wherein said output is displayed as a histogram showing number of inclinations at each angle range during a time period.

75. (original) A device as recited in claim 40, wherein said output is displayed as inclination v. time.

76. (original) A device as recited in claim 40, further comprising a digital filter.

77. (original) A device as recited in claim 76, wherein said digital filter is for reducing effect of linear accelerations on the data.

78. (original) A device as recited in claim 76, wherein said digital filter comprises a low pass filter.

79. (currently amended) A device as recited in claim 40, wherein said sensor comprises accelerometers, further comprising a high pass filter, wherein output of said accelerometers that passes through said high pass filter is subsequently integrated and used to compute a resultant velocity which is used to calculate energy used.

80. (currently amended) A device as recited in claim 40, wherein said device is further for determining body posture in ~~said~~ a sitting position.

81. (original) A device as recited in claim 40, wherein said device is wearable.

82. (original) A device as recited in claim 40, wherein said device records output over a series of intervals of time.

83. (New) A device for attaching to a living subject, comprising a first sensor, a processor, and a storage device, wherein said first sensor comprises a device for determining a curvature of the spine, wherein data from said first sensor is processed in said processor and stored in said storage device, wherein said first sensor, said processor and said storage device are part of the device for attaching to the living subject.

84. (New) A device as recited in claim 83, wherein said device is capable of detecting various postures based on curvature of the spine.

85. (New) A device as recited in claim 84, wherein said device is capable of detecting a kyphotic curvature of the spine or a lordotic curvature of the spine.

86. (New) A device as recited in claim 85, wherein said processor is programmed to measure the time the subject has said kyphotic curvature of the spine and determines whether said time exceeds a preset value, and wherein said processor is further programmed to prompt the subject to move if said time exceeds said preset value.

87. (New) A device as recited in claim 86, further comprising a first inclination measuring device for determining inclination with respect to the gravity vector and a second inclination measuring device for determining inclination with respect to the gravity vector, said first inclination measuring device for attaching to a first body segment above a joint, said second inclination measuring device for attaching to a second body segment below said joint for distinguishing lying, sitting, and standing positions.

88. (New) A device as recited in claim 83, further comprising at least one additional sensor for attaching to the subject for distinguishing lying, sitting, and standing positions.

89. (New) A device as recited in claim 88, wherein said at least one additional sensor includes a solid state inclination measuring device for determining inclination with respect to the gravity vector.

90. (New) A device as recited in claim 89, wherein said at least one additional sensor includes a first inclination measuring device and a second inclination measuring device, said first inclination measuring device for attaching to a first body segment above a joint, said second inclination measuring device for attaching to a second body segment below said joint.

91. (New) A device as recited in claim 90, wherein said joint is a hip joint.

92. (New) A device as recited in claim 1, wherein said joint is a hip joint.

93. (New) A device as recited in claim 1, further comprising a sensor for further detecting posture based on curvature of the spine.

94. (New) A device as recited in claim 93, wherein said sensor is capable of detecting a kyphotic curvature of the spine.

95. (New) A device as recited in claim 94, wherein said processor is programmed to measure the time the subject has said kyphotic curvature of the spine and determines whether said time exceeds a preset value, and wherein said processor is further programmed to prompt the subject to move if said time exceeds said preset value.

96. (New) A device as recited in claim 40, further comprising a sensor for detecting a posture based on curvature of the spine.

97. (New) A device as recited in claim 96, wherein said sensor is capable of detecting a kyphotic curvature of the spine.

98. (New) A device as recited in claim 97, wherein said processor is programmed to measure the time the subject has said kyphotic curvature of the spine and determines whether said time exceeds a preset value, and wherein said processor is further programmed to prompt the subject to move if said time exceeds said preset value.

99. (New) A device comprising a first sensor for placing on a first body segment, a second sensor for placing on a second body segment, a processor, a storage device, and a feedback mechanism wherein data from said first and said second sensors is processed in said processor to provide an output, wherein said output is stored in said storage device as a function of time, and wherein multiple points of said time dependent output stored in said storage device are processed in said processor, wherein said processor is programmed to direct said feedback mechanism to provide information or instruction in response to said multiple points of time dependent output for measuring range of motion of said second body segment with respect to said first body segment.